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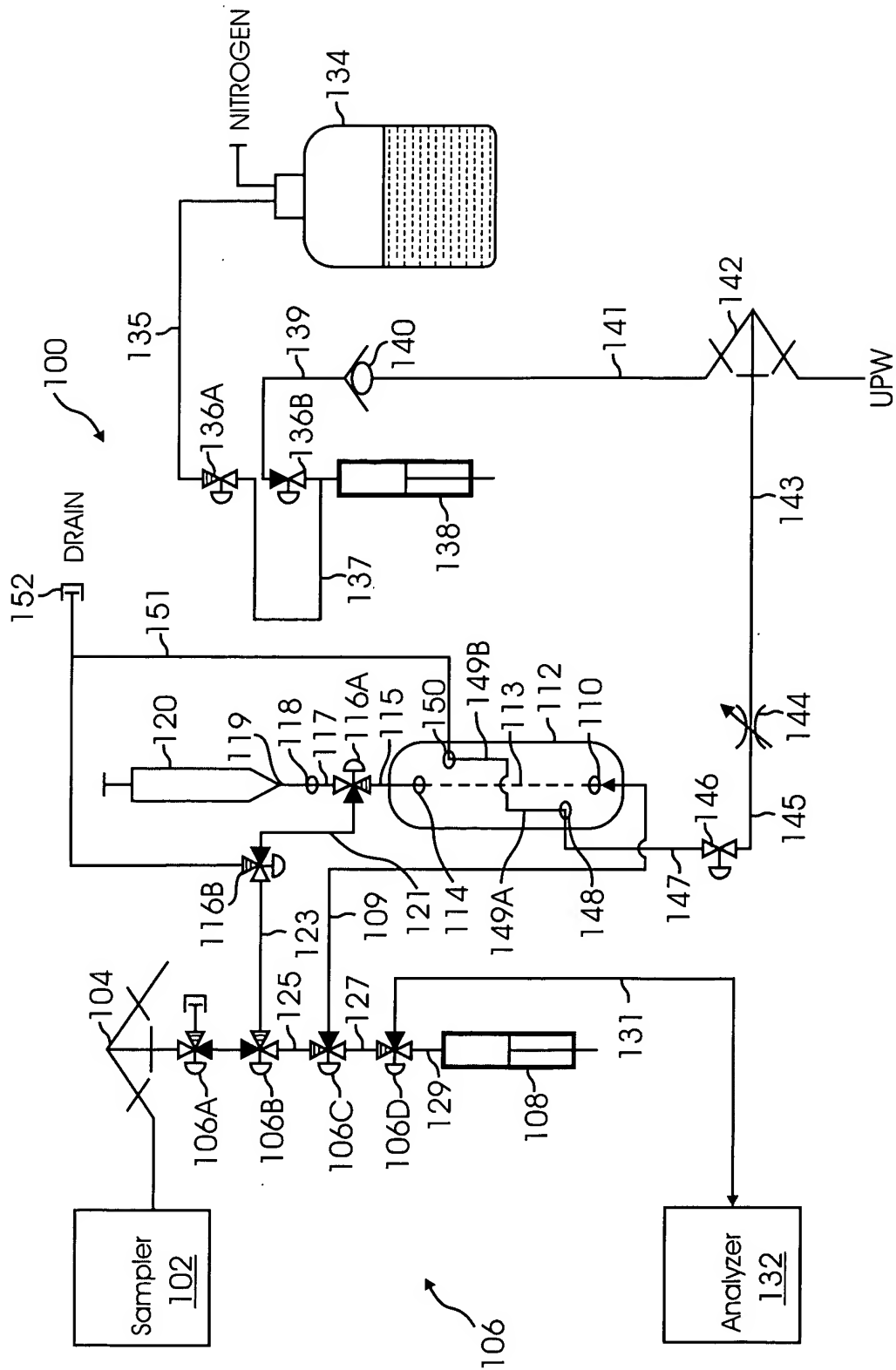


FIG. 1

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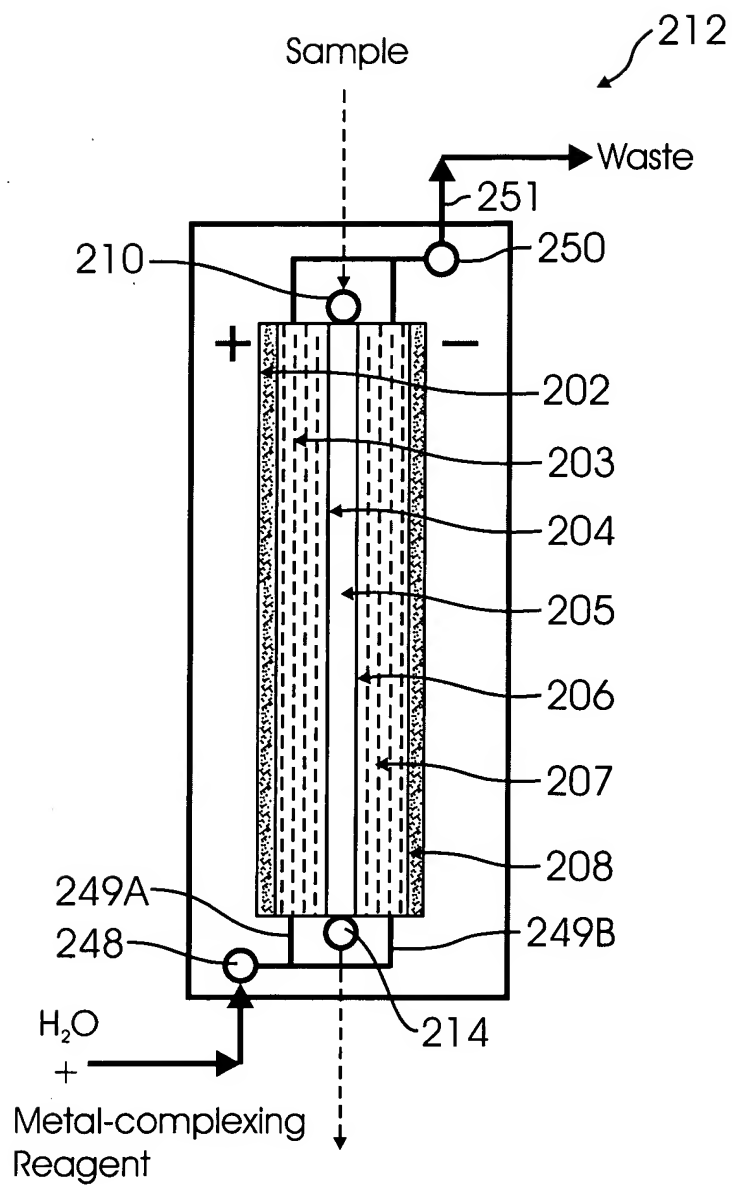


FIG. 2

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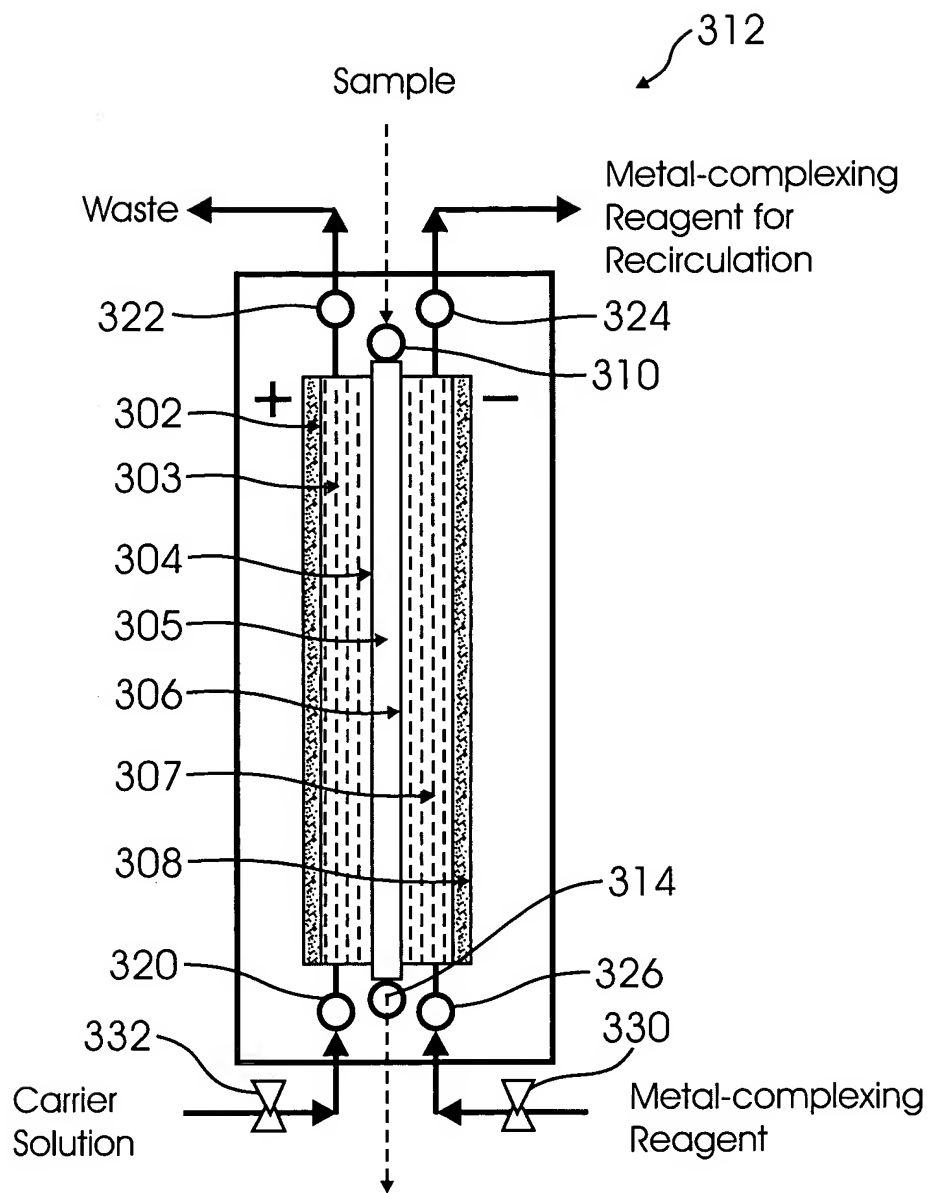


FIG. 3A

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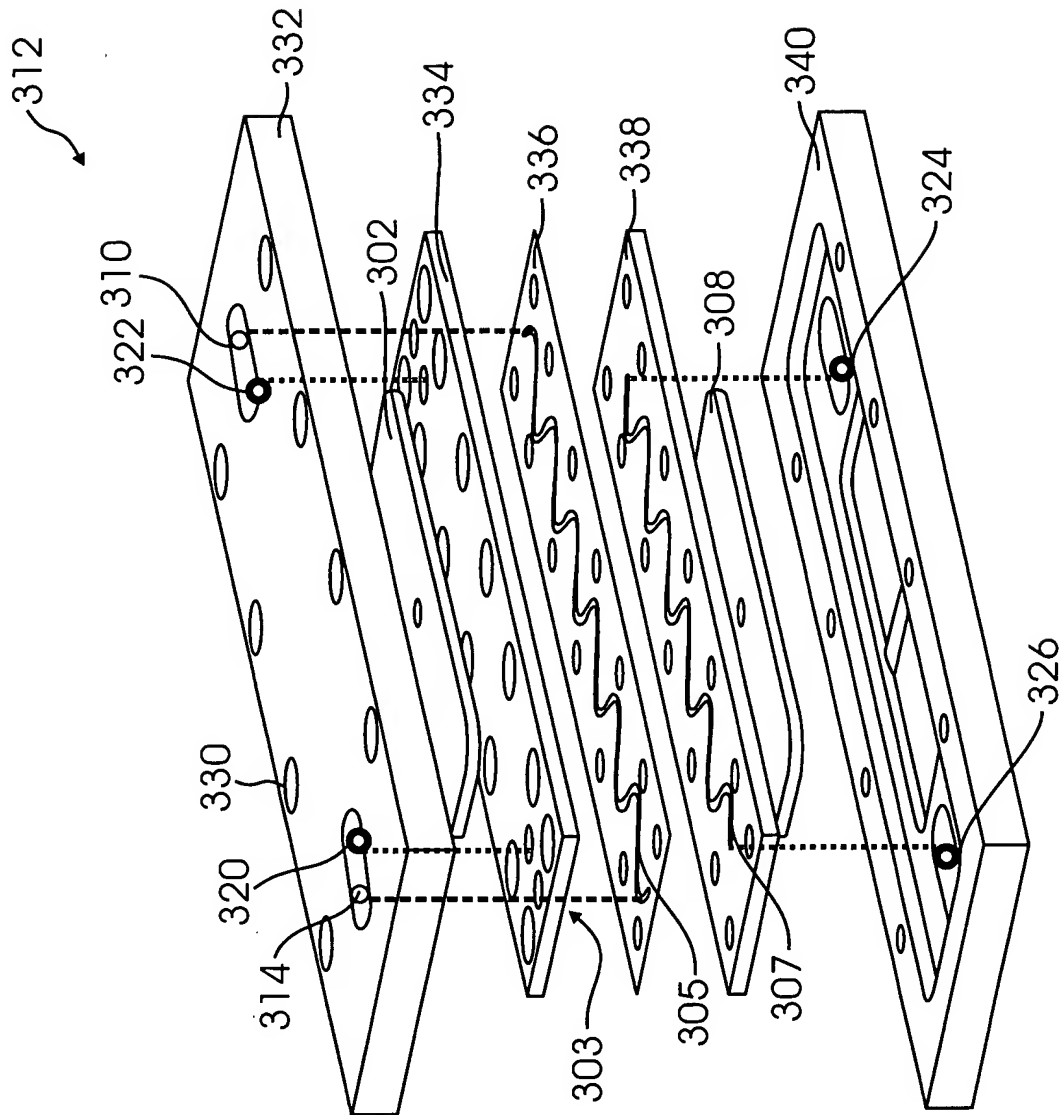


FIG. 3B

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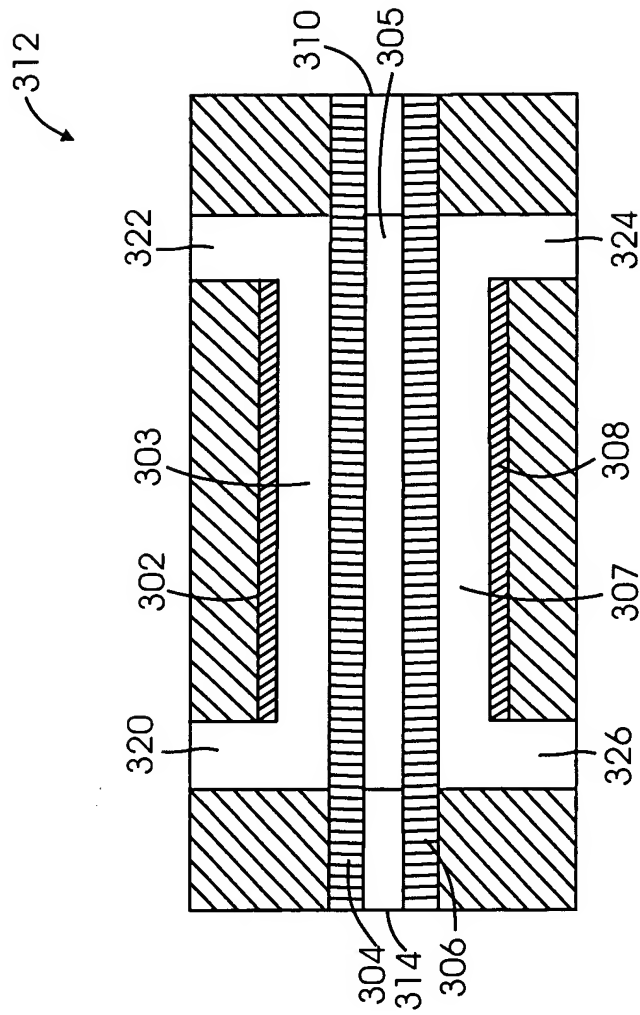


FIG. 3C

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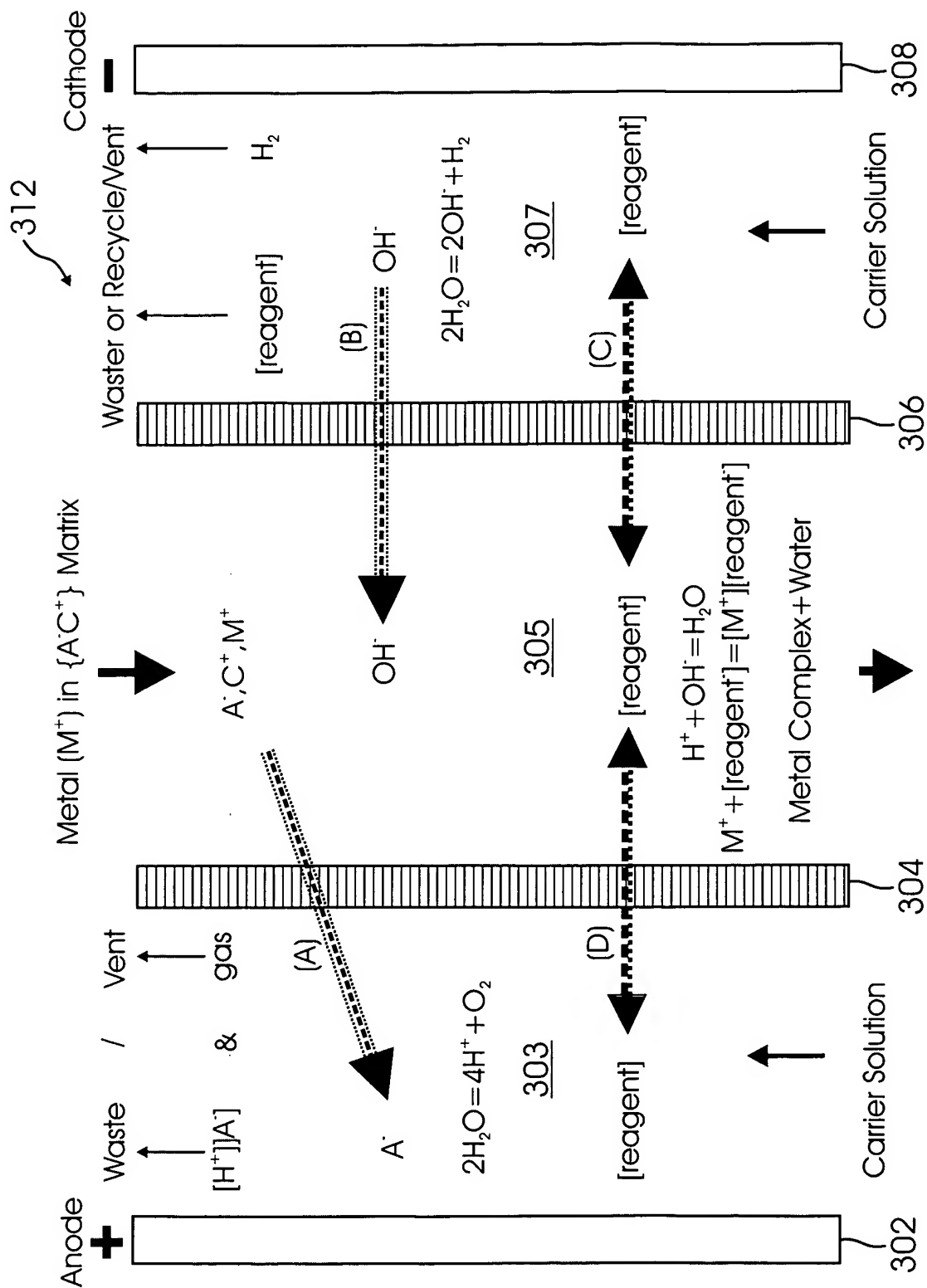


FIG. 4A

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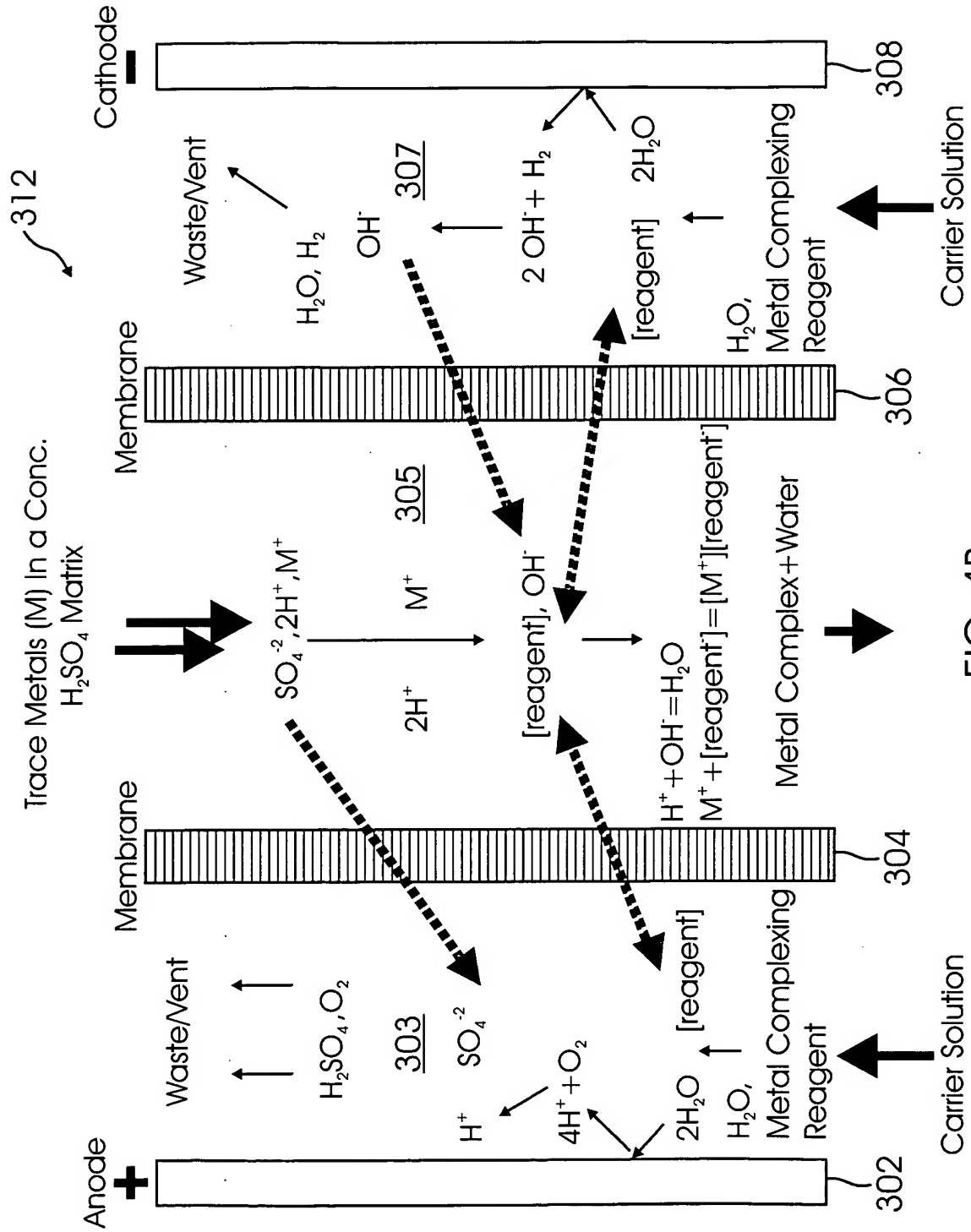


FIG. 4B

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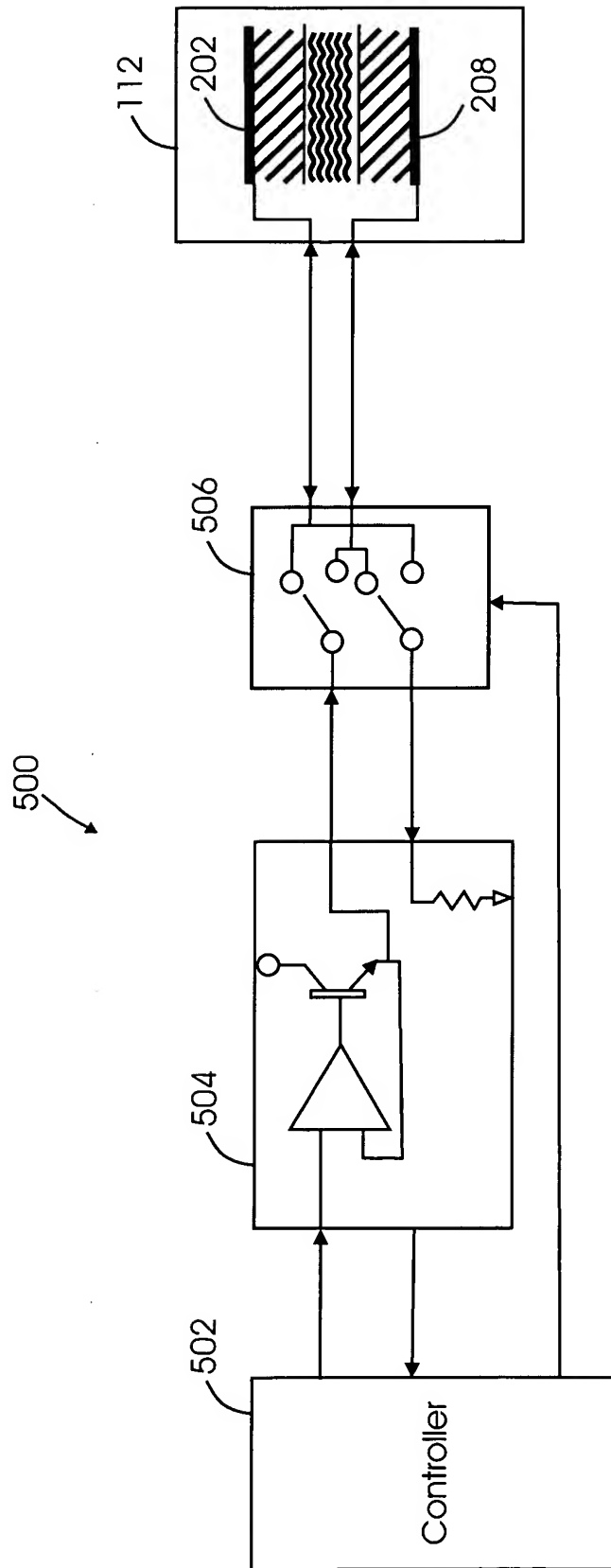
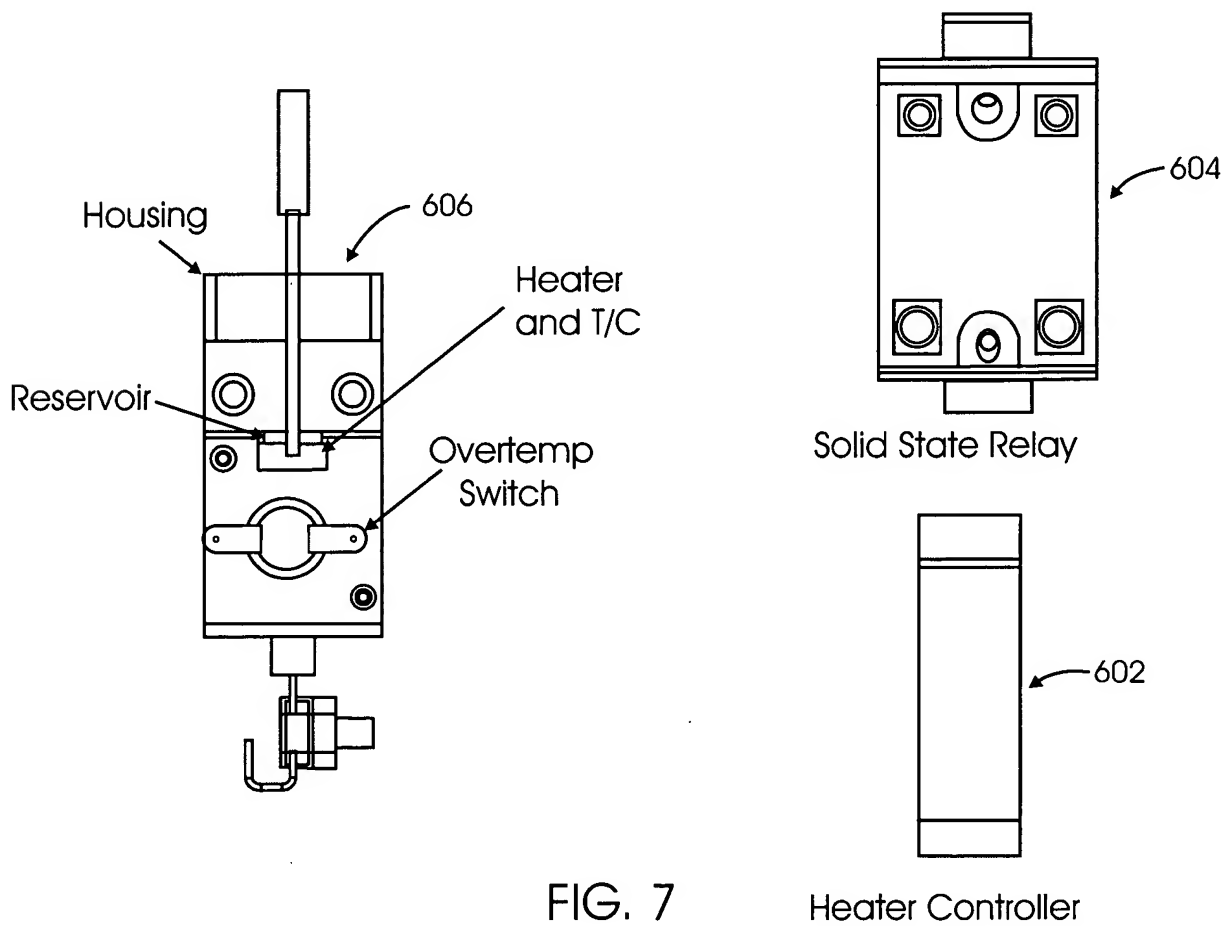
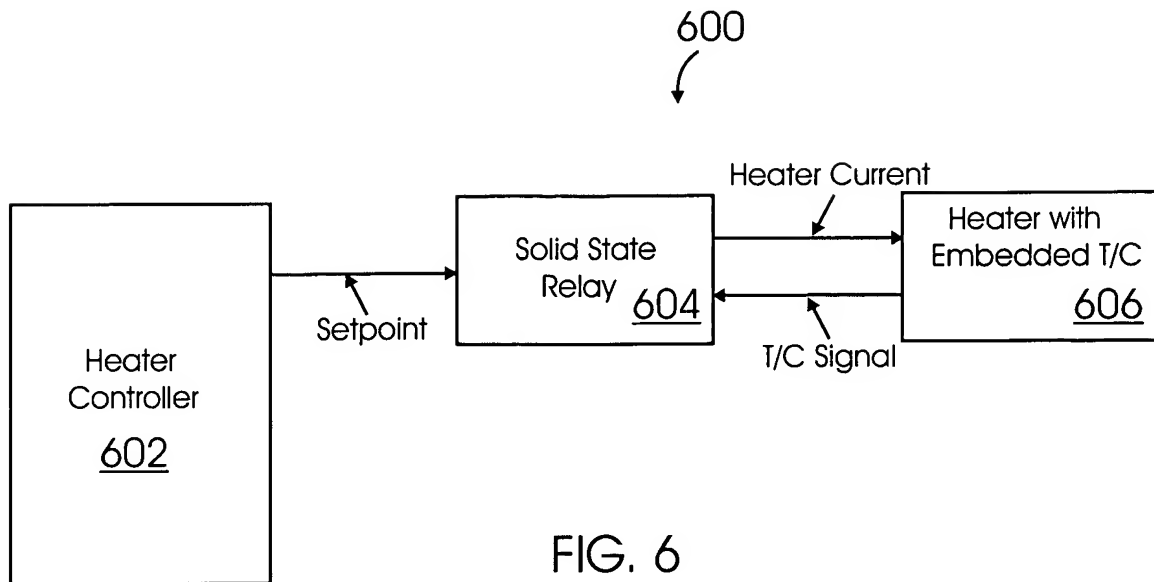


FIG. 5



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```
' $Workfile: Memberane.config $
,
membrane_A_enable = 1
membrane_D_enable = 1

membrane.sensor.antibubble.retry=10      '# of times to requery optical sensor when air is detected
membrane.sensor.antibubble.retry.delay= 1 'delay (seconds) between requeries of sensor when air is
detected

' Solution used with membrane

membrane_A_solutionname = HF
membrane_D_solutionname = H2SO4

' HF
,
HF_operating_vol = 1600
begins
HF_carrier_solution = HF
HF_carrier_syr_speed = 10
HF_refill_speed = 30

HF_stage1_neutralization_speed = 10  'implied volume of solution in syringe before membrane operation
HF_stage1_cycles = 2
HF_stage1_current = 250
HF_stage1_polarity = 0
'?' no consequence
'?' no consequence
'speed to draw from reservoir back to the syringe

HF_stage1_neutralization_speed = 10  'speed to push through membrane, in microliters/sec
HF_stage1_cycles = 2
HF_stage1_current = 250
HF_stage1_polarity = 0
' times to repeat this run
' milliamps
' -1 = oscillate, 0 = negative, 1 = positive

HF_stage2_cycles = 2
HF_stage2_polarity = 0
HF_stage2_neutralization_speed = 10
HF_stage2_current = 200

UPW_clean_num_cycles=2
UPW_clean_refill_speed=30
UPW_clean_neut_speed=10

' speed UPW is drawn from resevoir to syringe
' speed UPW is run through the membrane

HF_num_stages=2      ' increment this, and add additional HF_stageX parameters to have more stages
```

FIG. 8

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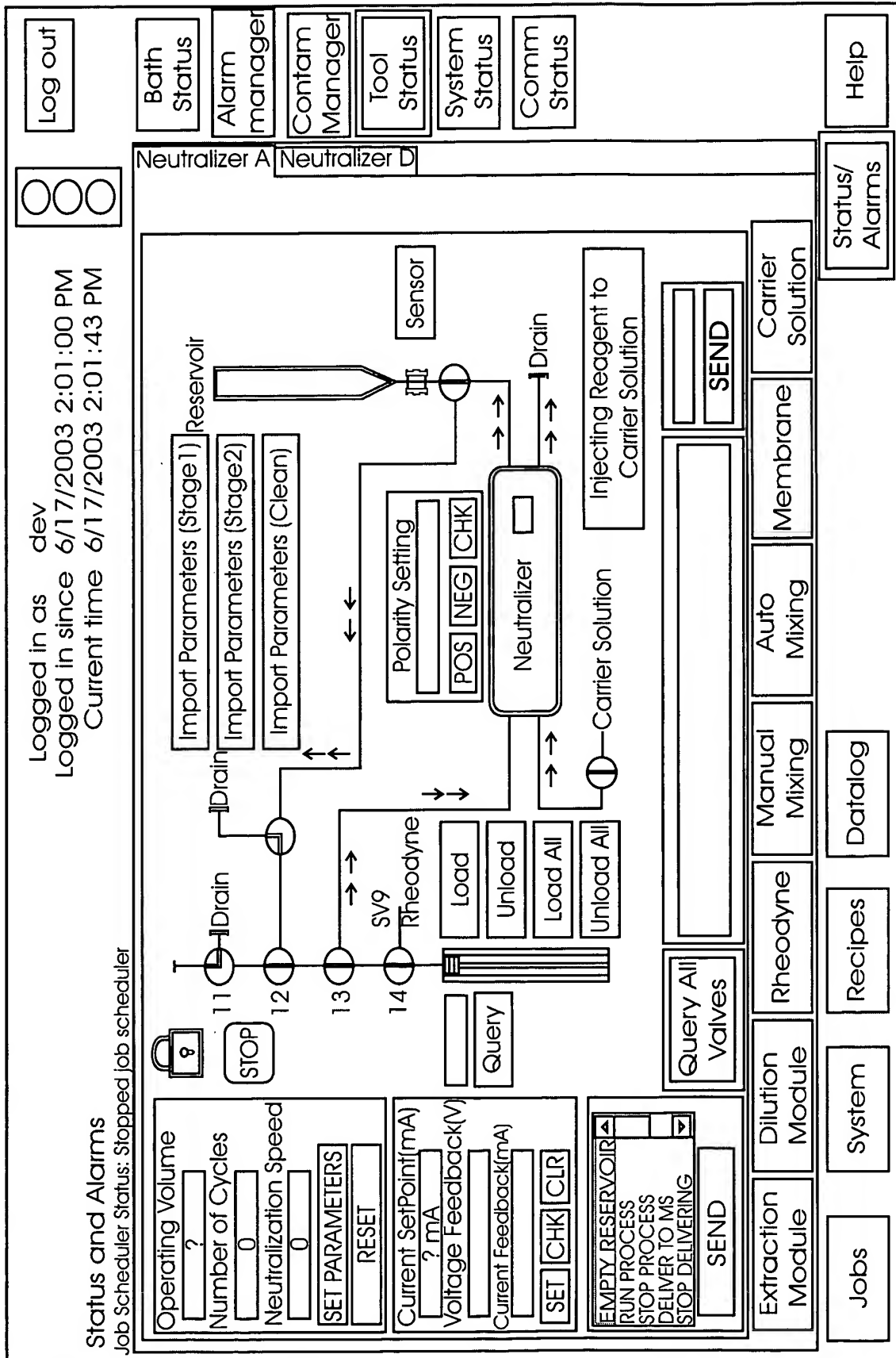


FIG. 9

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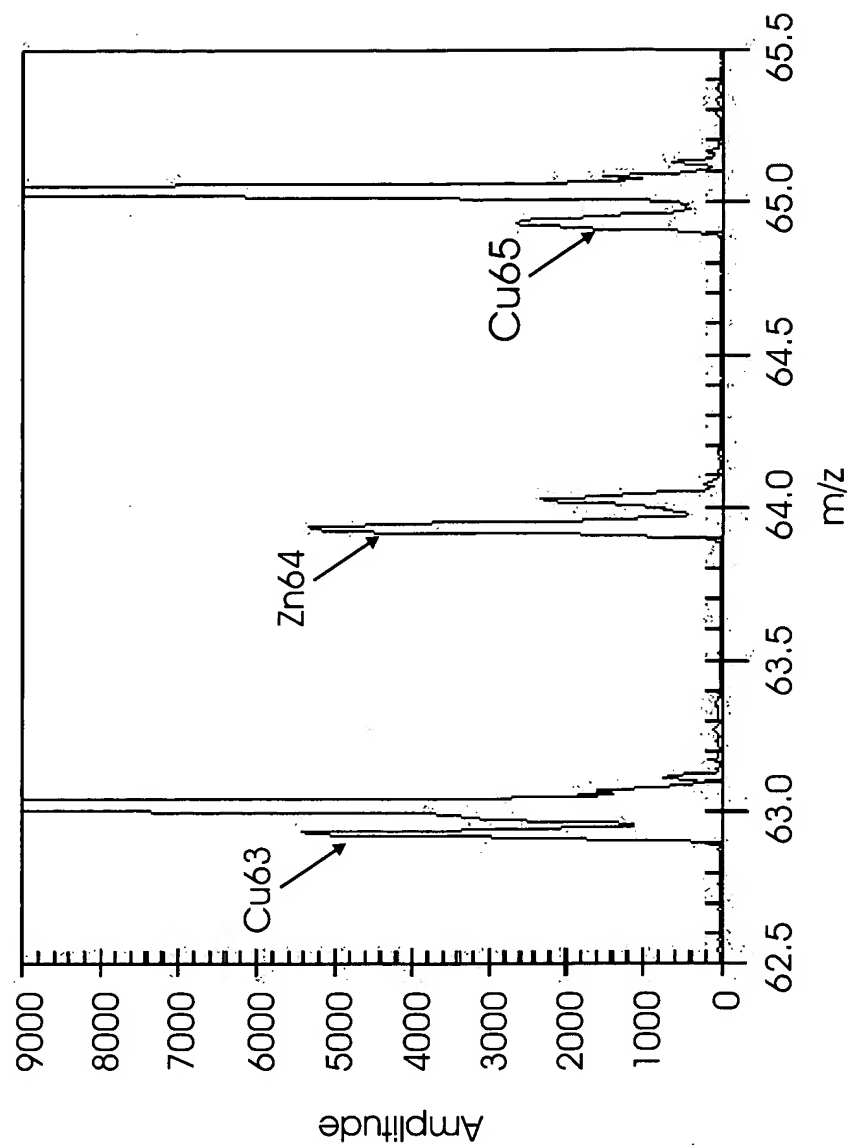


FIG. 10

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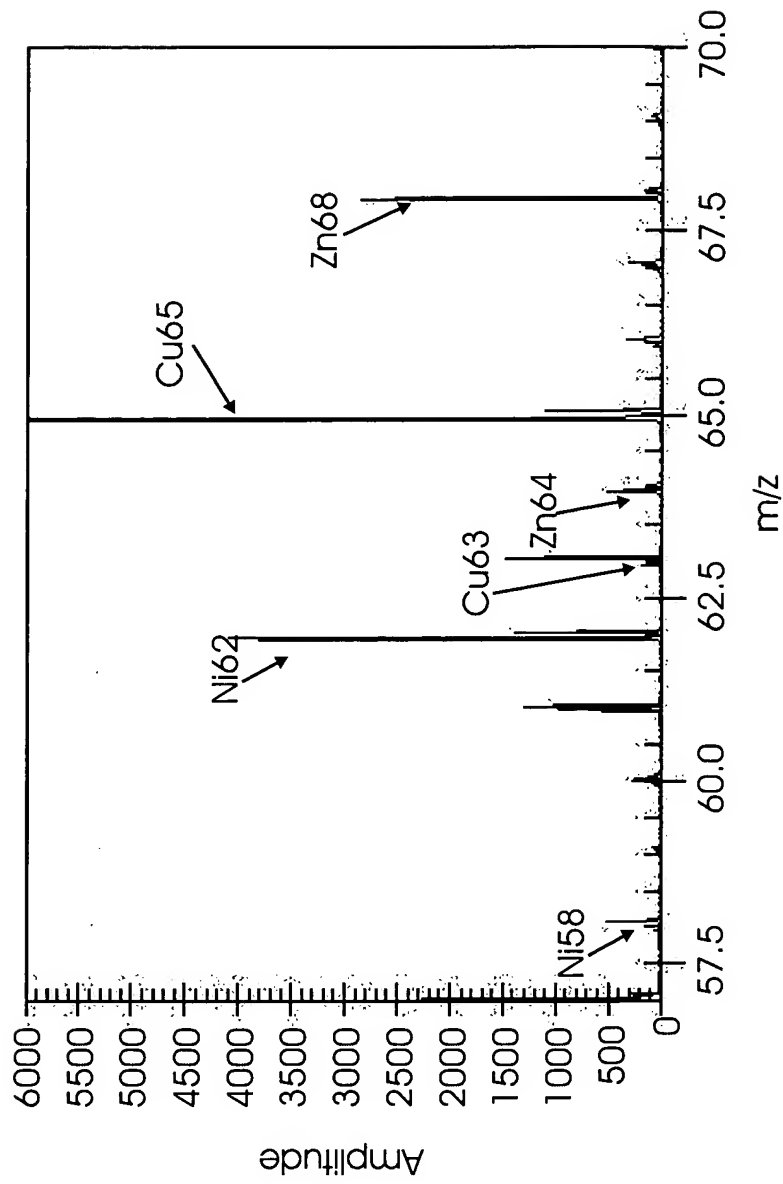


FIG. 11